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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
MCCLOUD, RENATA D	

ART UNIT	PAPER NUMBER
2837	

DATE MAILED: 05/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/723,460	KOVACH ET AL.	
	Examiner	Art Unit	
	Renata McCloud	2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-12 and 14-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-12 and 14-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The affidavit under 37 CFR 1.132 filed 04/13/2005 is insufficient to overcome the rejection of claims 1,3-12,14-20 based upon Procab as set forth in the last Office action because: The evidence presented by applicant shows that the prior art works below 50ms, but has some instability. This does not mean that the device is not capable of working below 50 ms. MPEP 2121.01 (II) recites "Even if a reference discloses an inoperative device, it is prior art for all that it teaches." Beckman Instruments v. LKB Produkter AB, 892 F.2d 1547, 1551, 13 USPQ2d 1301, 1304 (Fed. Cir. 1989). Therefore, "a non-enabling reference may qualify as prior art for the purpose of determining obviousness under 35 U.S.C. 103." Symbol Techs. Inc. v. Opticon Inc., 935 F.2d 1569, 1578, 19 USPQ2d 1241, 1247 (Fed. Cir. 1991). Applicant's claim language reads "about 50 milliseconds or less". Applicant's evidence does not show how the prior art functions above 50ms. For example, 60 ms is "about" 50 ms. The term "about" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree. Also, MPEP 2144.05 (II) recites "Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1,3-12 rejected under 35 U.S.C. 103(a) as being unpatentable over Young et al (US 5749547) in view of Koogler (US 4352010).

Claim 1: Young et al teach model train (fig. 1) controlled by a transmitter (fig. 2) having a control knob (fig. 2:36); an encoder (38) determining a speed of the knob over a period (col. 6:38-62); a processor (54) correlating the magnitude of power provided to the vehicle with a signal from the knob (col.6: 38-49). They do not teach the signal being the speed of the rotation of the knob or a period of about 50 ms or less. Koogler teaches a transmitter having a rotating control wheel (15); determining a rate of rotation of the wheel over a range of 50 ms or less (col. 3:38-40; fig. 2: shows determining the rate from 0 to s1, 0 being less than 50ms); correlating the power transmitted (col. 4:58-63) with the rate of rotation of the wheel by multiplying a distance of rotation by a time factor (col. 1:31-37 teaches frequency (speed)/revolution... for example, 10hz/rev. = 10/t/rev. = 10rev./t, so the rotation (revolution) is multiplied by a time factor 10/t). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Young et al to use the transmitter of Koogler in order to control the speed and power of a remote controlled vehicle.

Claim 12: Young et al teach a control knob rotated by a user (fig. 2:36); an encoder (38) determining a speed of the knob over a period (col. 6:38-62); a processor (54) correlating the magnitude of power provided to the vehicle with a signal from the knob (col.6: 38-49). They do not teach the signal being the speed of the rotation of the knob or a period of about 50 ms or less. Koogler teaches a transmitter having a rotating control wheel (15); determining a rate of rotation of the wheel over a range of 50 ms or less (col. 3:38-40; fig. 2: shows determining the rate from 0 to s1, 0 being less than 50ms); correlating the power transmitted (col. 4:58-63) with the rate of rotation of the wheel by multiplying a distance of rotation by a time factor (col. 1:31-

37 teaches frequency(speed)/revolution... for example, 10hz/rev. = 10/t/rev. = 10rev./t, so the rotation(revolution) is multiplied by a time factor 10/t). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Young et al to use the transmitter of Koogler in order to control speed.

Claims 3: Young et al and Koogler teach the limitations of claim 1. Referring to claim 3, Koogler teaches that the maximum speed of the dial can be varied (col. 3:54-57). They do not teach the speed is determined when the wheel rotation exceeds 200ms/rotation. It would have been obvious to one having ordinary skill in the art at the time the invention was made, to determine the speed when the rotation exceeds 200ms/rotation since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch,* 617 F.2d 272, 205 USPQ 215 (CCPA 1980) (see MPEP 2144.05 (II)). The advantage would be the ability to use the invention in apparatuses that require high speeds (see Koogler col. 3:65-4:6).

Claim 4: Koogler teach the factor is proportional to the speed (col. 1:31-37 teaches frequency(speed)/revolution... for example, 10hz/rev. = 10/t/rev. = 10rev./t, so the rotation(revolution) is multiplied by a time factor 10/t).

Claim 5: Young et al teach correlating the power comprises generating pulses based on the wheel rotation (col. 6:38-62, an encoder). Koogler also teaches correlating the power comprises generating pulses based on the wheel rotation (col. 3:10-62).

Claims 6-8,15-18: Young et al teach generating pulses with an encoder (col. 6:54-63). Koogler teaches generating pulses with an encoder receiving light transmitted through gaps (fig. 1:20; col. 1:25-30) in communication with the knob (col. 3:10-62). (Also, it is well known in the art that encoders comprise such components and function in that manner).

Claim 9: Young et al teach an encoder (col. 6:54-63) in a model train. Koogler teaches and encoder having optical detectors positioned around a disk (fig. 1:20; col. 3:10-62) and controlling a polarity change in the velocity based on a phase difference of the pulse (col. 4:20-57). (Also it is well known in the art that an encoder functions this way.)

Claim 10: Young et al teach correlating the magnitude of power to a rail of a model train set (col. 7:1-3, 65-67). Koogler teaches correlating the power transmitted (col. 4:58-63) with the rate of rotation of the wheel by multiplying a distance of rotation by a time factor (col. 1:31-37)

Claim 11: Young et al teach powering a remotely controlled train (fig. 1; col. 7:57-8:3).

Claim 14: Koogler teaches a processor (fig. 3A) configured to generate the factor proportional to the speed of knob rotation (col. 1:31-37 teaches frequency(speed)/revolution; col. 4:20-32).

Claim 19: Young et al teach an antenna for communication between a power source and a processor (Fig. 12:142).

Claim 20: Young et al teach a wired communications link between the power source and the processor (fig. 13:150

4. Claims 1,3-12,14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Procab manual.

Claim 1: method comprising providing a rotating control wheel; determining a speed of the wheel over a period by a user (whoever is operating the apparatus determines the speed); correlating the magnitude of power provided to the vehicle with a speed of the rotation of the wheel (pg 3 speed control section) by multiplying a distance of rotation of the wheel by a factor determined from a time of wheel rotation (pg 3 speed control section; pg7-8 expansion section; pg 12 steps 6-7; it is known that speed is a distance over time, so the factor would be 1/t). They

do not teach a period of about 50 ms or less. It would have been obvious to one having ordinary skill in the art at the time the invention was made use a period of about 50ms or less, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves on routine skill in the art. In re Aller, 105 USPQ 233, in order to control the speed.

Claim 12: a control knob rotated by a user; an encoder determining a speed of the wheel over a period; a processor correlating the magnitude of power provided to the vehicle with the speed of the rotation of the wheel (pg 3 speed control section) by multiplying a distance of rotation of the wheel by a factor determined from a time of wheel rotation (pg 3 speed control section; pg7-8 expansion section; pg 12 steps 6-7; it is known that speed is a distance over time, so the factor would be 1/t). It would have been obvious to one having ordinary skill in the art at the time the invention was made use a period of about 50ms or less, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves on routine skill in the art. In re Aller, 105 USPQ 233.

Claims 3: Procab teaches the claimed invention except for the speed is determined when the wheel rotation exceeds 200ms/rotation. It would have been obvious to one having ordinary skill in the art at the time the invention was made, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980)

Claim 4: the factor is proportional to the speed (pg 3 speed control section; pg7-8 expansion section; pg 12 steps 6-7; it is known that speed is a distance over time, so the factor would be 1/t).

Claim 5: correlating the power comprises generating pulses based on the wheel rotation (pg 3 speed control section)

Claims 6-8,15-18: generating pulses with an encoder (pg 3 speed control section)

Claim 9: Procab teaches the claimed invention except for controlling polarity change of the velocity based on the phase difference between voltage signals output by optical detector positioned along a disk rotational path. It would have been obvious to one having ordinary skill in the art at the time the invention was made to control the polarity change of the velocity based on the phase difference between voltage signals output by optical detector positioned along a disk rotational path polarity since it was well known in the art that an encoder functions this way.

Claim 10: correlating the magnitude of power to a rail of a model train set (pg. 2, introduction).

Claim 11: powering a remotely controlled train (pg 2, introduction).

Claim 14: the factor is proportional toe the speed of knob rotation (pg 3 speed control section; pg7-8 expansion section; pg 12 steps 6-7; it is known that speed is a distance over time, so the factor would be 1/t).

5. Claims 1, 3-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hass (US 6179105)

Claim 1: Hass teaches a method comprising providing a rotating control wheel; determining a speed of the wheel over a period by a user (col. 4:6-16, col. 3:59-63, whoever is operating the apparatus determines the speed); correlating the magnitude of power provided to the vehicle with a speed of the rotation of the wheel (col.4: 26-39,Col. 4:59-5:5). Hass does not teach a period of about 50 ms or less or that correlating the power with a speed of rotation comprises multiplying a distance of rotation of the wheel by a factor determined from a time of wheel rotation. It would have been obvious to one having ordinary skill in the art at the time the invention was made use a period of about 50ms or less, and multiply a distance of rotation of

the wheel by a factor determined from a time of wheel rotation, in order to control the speed, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves on routine skill in the art. In re Aller, 105 USPQ 233, and since it is well known in the art that is known that speed is a distance over time, so the factor would be 1/t.

Claim 3: the speed is determined when the wheel rotation exceeds 200ms/rotation (col. 4:4-16,col. 6:7-22 the speed is determined over several periods).

Claim 4: the factor is proportional to the speed (col. 4: 4-16).

Claim 5: correlating the power comprises generating pulses based on the wheel rotation (col. 3:59-63)

Claims 6-8: Hass teaches generating pulses with an encoder (col. 3:36-44). Hass does not teach the encoder components or how the encoder functions. It would have been obvious to one having ordinary skill in the art at the time the invention was made provide such devices since it was well known in the art that encoders comprise such components and function in that manner.

Claim 9: controlling polarity change of the velocity based on the phase difference between voltage signals output by optical detector positioned along a disk rotational path (col. 3:36-44,col. 4:59-5:5, it is known that an encoder functions this way).

Claim 10: correlating the magnitude of power to a rail of a model train set (col.3: 29-36).

Claim 11: powering a remotely controlled train (col. 3:29-36, Fig. 2:6, the controller is remotely positioned away from the train).

Response to Arguments

6. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a wheel rotatable by a user) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Applicant's claim language recites, "determining a speed of rotation of the control wheel by a user", which may be interpreted as "determining a speed of rotation by a user", as in, the user determines the speed. Hass teaches this.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure (see notice of references cited). Any inquiry concerning this communication or earlier communications from the examiner should be directed to Renata McCloud whose telephone number is (571) 272-2069. The examiner can normally be reached on Mon.- Fri. from 5:30 am - 2pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on (571) 272-2800 ext. 37. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Renata McCloud
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